Amendments to the Specification:

Please amend the paragraph on page 14, line 31 to page 15, line 5 as follows:

Figure 1. siRNA-mediated inhibition of Livin expression. **(a)** Predicted secondary structure of pSUPER-Livin-1 and pSUPER-Livin-2 transcripts **(SEQ ID NOS 12 & 13 respectively in order of appearance)**. **(b)** Western blot analysis of Livin protein expression in MeWo melanoma, H1299 lung cancer and HeLa cervical carcinoma cells. Tubulin: detection of α-Tubulin protein expression to monitor equal loading between individual lanes. **(c)** Inhibition of Livin protein expression in HeLa cells by pSUPER-Livin-1 and pSUPER-Livin-2. Control vector pSUPER-Luc expresses siRNA targeting the *P. pyralis* luciferase gene. **(d)** Reduction of livin transcripts in HeLa cells by siRNA targeting of livin. Northern blot analysis of poly-A^+-RNA isolated from HeLa cells transfected with pSUPER-Livin-1, pSUPER-Livin-2, or control transfected HeLa cells, respectively. GAPDH: detection of glycerylaldehyde-3-phosphate dehydrogenase transcripts.

Please amend the paragraph on page 15, lines 7-14 as follows:

Figure 2. siRNA against Livin increases Caspase-3 activities in HeLa cells. Livin-positive HeLa and Livin-negative H1299 cells were transfected with either pSUPER-Livin-2 or control vector pSUPER-Luc. DEVD-pNA **(peptide disclosed as SEQ ID NO: 14)** hydrolysis was measured in cytosolic extracts 48 hours post-transfection. Indicated are the Caspase-3 activities of pSUPER-Livin-2-transfected cells relative to control transfectants (pSUPER-Luc), arbitrarily set at 1.0. Values represent the means obtained from at least three independent transfections, error bars indicate the standard deviations. Inclusion of the specific Caspase-3 inhibitor DEVD-fmk **(peptide disclosed as SEQ ID NO: 14)** blocks pSUPER-Livin-2-induced hydrolysis of DEVD-pNA **(peptide disclosed as SEQ ID NO: 14)**.

Please amend the paragraph on page 17, line 33 to page 18, line 10 as follows:

Since pSUPER-Livin-2 regularly suppressed endogeneous Livin expression more strongly than pSUPER-Livin-1 (Figure 1), the former was chosen for subsequent analyses. It has been

reported that Livin inhibits Caspase-3 activities following ectopic expression from heterologous promoters or in *in vitro* assays. In contrast to these studies, the siRNA approach followed in this study should allow to analyze the effects of endogeneous Livin on cellular Caspase-3 activities. As shown in Figure 2, pSUPER-Livin-2 increased Caspase-3-like activities in HeLa cells, indicating that the down-regulation of Livin expression is associated with a release of Caspase-3 from negative regulation by Livin. This conclusion is corroborated by the observation that the Caspase-3 inhibitor DEVD-fmk **(peptide disclosed as SEQ ID NO: 14)** completely inhibited the increase of DEVD-cleavage **(peptide disclosed as SEQ ID NO: 14)** following pSUPER-Livin-2 transfection in HeLa cells (Figure 2). In further support for the specificity of the Livin-targeting siRNAs, induction of caspase-3 activities by pSUPER-Livin-2 was observed in Livin-expressing HeLa cells, but not in H1299 cells (Figure 2) which do not express endogeneous Livin protein (Figure 1b).

Please amend the paragraph on page 21, lines 25-33 as follows:

Sequence ~~(nucleotides 648-668 of SEQ ID NO:11)~~:

Livin: ggaagagactttgtccacagt **(nucleotides 648-668 of SEQ ID NO:11)** GRDFVHS **(SEQ ID NO: 15)**

LivinMT: ggcagggatttcgtgcattcc **(SEQ ID NO: 16)** GRDFVHS **(SEQ ID NO: 15)**

Comparison of livin and livinMT DNA and protein sequences (bold nucleotides represent mutations:

Livin: ggaagagactttgtccacagt **(nucleotides 648-668 of SEQ ID NO:11)** GRDFVHS **(SEQ ID NO: 15)**

LivinMT: ggcagggatttcgtgcattcc **(SEQ ID NO: 16)** GRDFVHS **(SEQ ID NO: 15)**

Please amend the paragraph on page 22, lines 6-31 as follows:

This could not be achieved with pLivin-alphaMT.

livin-alpha **(SEQ ID NO: 10)**

```
  1 gtctggtggc aggcctgtgc ctatccctgc tgtccccagg gtgggccccg ggggtcagga
 61 gctccagaag ggccagctgg gcatattctg agattggcca tcagccccca tttctgctgc
121 aaacctggtc agagccagtg ttccctccat gggacctaaa gacagtgcca agtgcctgca
181 ccgtggacca cagccgagcc actgggcagc cggtgatggt cccacgcagg agcgctgtgg
241 accccgctct ctgggcagcc ctgtcctagg cctggacacc tgcagagcct gggaccacgt
301 ggatgggcag atcctgggcc agctgcggcc cctgacagag gaggaagagg aggagggcgc
361 cggggccacc ttgtccaggg ggcctgcctt ccccggcatg ggctctgagg agttgcgtct
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 421 ggcctccttc tatgactggc cgctgactgc tgaggtgcca cccgagctgc tggctgctgc
 481 cggcttcttc cacacaggcc atcaggacaa ggtgaggtgc ttcttctgct atgggggcct
 541 gcagagctgg aagcgcgggg acgacccctg gacggagcat gccaagtggt tccccagctg
 601 tcagttcctg ctccggtcaa aaggaagaga ctttgtccac agtgtgcagg agactcactc
 661 ccagctgctg ggctcctggg acccgtggga agaaccggaa gacgcagccc ctgtggcccc
 721 ctccgtccct gcctctgggt accctgagct gcccacaccc aggagagagg tccagtctga
 781 aagtgcccag gagccaggag gggtcagtcc agcccaggcc cagagggcgt ggtgggttct
 841 tgagccccca ggagccaggg atgtggaggc gcagctgcgg cggctgcagg aggagaggac
 901 gtgcaaggtg tgcctggacc gcgccgtgtc catcgtcttt gtgccgtgcg gccacctggt
 961 ctgtgctgag tgtgcccccg gcctgcagct gtgccccatc tgcagagccc ccgtccgcag
1021 ccgcgtgcgc accttcctgt cctaggccag gtgccatggc cggccaggtg ggctgcagag
1081 tgggctccct gcccctctct gcctgttctg gactgtgttc tgggcctgct gaggatggca
1141 gagctggtgt ccatccagca ctgaccagcc ctgattcccc gaccaccgcc cagggtggag
1201 aaggaggccc ttgcttggcg tgggggatgg cttaactgta cctgtttgga tgcttctgaa
1261 tagaaataaa gtgggttttc cctggaggta aaaaaaaaaa aaaaaaaaaa aa
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Please amend the paragraph on page 23, lines 1-24 as follows:

livin-beta **(SEQ ID NO: 11)**

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   1 ccctgggata ctcccctccc agggtgtctg gtggcaggcc tgtgcctatc cctgctgtcc
  61 ccagggtggg ccccgggggt caggagctcc agaagggcca gctgggcata ttctgagatt
 121 ggccatcagc ccccatttct gctgcaaacc tggtcagagc cagtgttccc tccatgggac
 181 ctaaagacag tgccaagtgc ctgcaccgtg gaccacagcc gagccactgg gcagccggtg
 241 atggtcccac gcaggagcgc tgtggacccc gctctctggg cagccctgtc ctaggcctgg
 301 acacctgcag agcctgggac cacgtggatg ggcagatcct gggccagctg cggcccctga
 361 cagaggagga agaggaggag ggcgccgggg ccaccttgtc caggggggct gccttccccg
 421 gcatgggctc tgaggagttg cgtctggcct ccttctatga ctggccgctg actgctgagg
 481 tgccacccga gctgctggct gctgccggct tcttccacac aggccatcag gacaaggtga
 541 ggtgcttctt ctgctatggg ggcctgcaga gctggaagcg cggggacgac ccctggacgg
 601 agcatgccaa gtggttcccc agctgtcagt tcctgctccg gtcaaaagga agagactttg
 661 tccacagtgt gcaggagact cactcccagc tgctgggctc ctgggacccg tgggaagaac
 721 cggaagacgc agcccctgtg gccccctccg tccctgcctc tgggtaccct gagctgccca
 781 cacccaggag agaggtccag tctgaaagtg cccaggagcc aggagccagg gatgtggagg
 841 cgcagctgcg gcggctgcag gaggagagga cgtgcaaggt gtgcctggac cgcgccgtgt
 901 ccatcgtctt tgtgccgtgc ggccacctgg tctgtgctga gtgtgccccc ggcctgcagc
 961 tgtgccccat ctgcagagcc cccgtccgca gccgcgtgcg caccttcctg tcctaggcca
1021 ggtgccatgg ccggccaggt gggctgcaga gtgggctccc tgcccctctc tgcctgttct
1081 ggactgtgtt ctgggcctgc tgaggatggc agagctggtg tccatccagc actgaccagc
1141 cctgattccc cgaccaccgc ccagggtgga gaaggaggcc cttgcttggc gtgggggatg

1201 gcttaactgt acctgtttgg atgcttctga atagaaataa agtgggtttt ccctggaggt
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Please amend the paragraph on page 25, lines 25-31 as follows:

To detect caspase-3 protease activities, the ApoAlert Caspase-3 Colorimetric Assay Kit (Clontech, Palo Alto, USA) was utilized. Cytosolic lysates were prepared 48 h following transfection and incubated with 50 μM p-nitroanilide (pNA) conjugated to the caspase cleavage site Asp-Glu-Val-Asp (DEVD) **(SEQ ID NO: 14)** for 1 h at 37° C. Hydrolyzed pNA was detected using a Multiscan MS colorimeter (ThermoLabsystems, Vantaa, Finland) at 405 nm. For control experiments, 10 μM of the Caspase-3 inhibitor DEVD-fmk **(peptide disclosed as SEQ ID NO: 14)** (Clontech) was included into the reaction, before addition of the substrate.